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and, taken together, they pretty distinctly show the extent of my discovery on that night. This was,—

"A dull, slightly reflective, zone, appearing as if illuminated by twilight, or like a very dull, unreflective portion of the moon, when the sun shines upon it *very* obliquely; extending towards the ball from a dark shaded boundary at the inner edge of the bright ring, to a distance about equal to the inner portion (or rather more than two-thirds of the breadth) of the outer ring; and seen projected upon the ball as a narrow dark line of elliptic form. This zone I considered to be a continuation of the breadth of the inner ring; the dark boundary between them not suggesting the idea of a complete *separation.*

"As no important addition was made to the discoveries of Nov. 29, up to the time of sending my paper to the Society, the woodcut appended to that paper may be taken as representing my original diagram in all essential points, when *corrected* by the following remarks upon it.

"The principal points it was intended to illustrate were, the position and comparative visibility of the division in the outer ring; and the situation and breadth of the obscure zone, with its narrow projection where it crosses the ball. The former is well shown; but the obscure zone is made *much too broad.* In my description it is stated to be about the breadth of the inner portion of the outer ring, and to appear like a very faint continuation of the breadth of the inner ring, occupying about *four-tenths* of the interval between the interior boundary of the bright part of the ring and the edge of the ball. In the engraving its breadth is *two-thirds* of that interval; and, consequently, the projection of the part which crosses the ball is also much too broad.

"The shadow of the ball upon the ring should be rather broader towards the bottom, and its outer edge *slightly convex* towards the ball. This convexity I have always observed of late, and depicted in my diagrams; though I am unable to account for the appearance, as the extreme thinness of the ring does not seem to allow of sufficient convexity of its surface to produce the effect. Perhaps it is only the effect of *contrast* with the much greater curvature of the edge of the ball.

"The belts on the ball are nearly in their right situation, but are, of course, far too strong and distinct. They have lately been only slightly distinguished from the general duskiness of the planet's southern hemisphere; but a wood-engraving cannot be expected accurately to represent shadings so delicate; and, consequently, the gradual shading off of the inner portion of the bright ring is not attempted."

Further Observations of the Ring of Saturn. By the Rev. W. R. Dawes.

"I have frequently received the impression of the newly-discovered obscure ring being divided into two, or else composed of two

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zones of different reflective power; the inner one possessing the least, and being also much narrower than the other. That nearest the bright ring has been repeatedly seen *in twilight*, extending to about *one-third* of the interval between the bright ring and the ball; its outer and inner edges presenting an elliptic curve pretty well defined for so faint an object. As the twilight faded, another, interior, and narrower zone has appeared, having also a well-defined elliptic inner edge; an extremely narrow dark boundary, or division, lying between the two. When the obscure ring, taken as a whole, appears broadest, it is not of *uniform* brightness, the outer portion being the brighter: and in ordinary states of the air, this outer portion alone is visible; while, during occasional fits of better vision, and on very fine nights, the inner portion also is seen.

"Supposing that, according to Struve's measures, the interval between the ball and the interior bright ring is 4″·34, I should estimate the breadth of the different portions nearly as follows:—

	″
Dark boundary, or interval, between bright ring and exterior obscure ring..	0·3
Breadth of the exterior obscure ring	1·1
Breadth of interior obscure ring and dark boundary between the two.........	0·6
	2·0
Interval between inner edge and the ball	2·34

"On the whole, the idea of two rings appears more probable than that of two zones of different reflective power on the same ring; since, in the latter case, the inner edge of the exterior one would be unlikely to present a well-defined elliptic outline.

"Micrometrical measurements of the breadth of the obscure ring have been repeatedly attempted; but the difficulty of the observation is extreme. The results are the following, reduced to the mean distance of *Saturn*. They include the whole space from the inner edge of the bright ring to the inner edge of the obscure ring when most perfectly seen. Power employed on each occasion 375.

		″				
1850.	Dec. 20	1·807 by	6	observations.	Weight	6
	22	1·967 —	6	—	—	10
1851.	Jan. 23	1·958 —	10	—	—	32
Mean, allowing weights =		1·941 —	22	—	—	48

"I have always observed, that the upper and more distant portion of the obscure ring is more plainly seen than the corresponding portion on the side nearest to the earth; and also that the projection of it at its inner axis is considerably narrower than accords with its breadth at the major axis."

Extract of a Letter from Father Secchi, Director of the Observatory of the Collegio Romano, to the Astronomer Royal.

"January 15, 1851.

"We have calculated the elements of *Egeria*, by Professor

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